

<i>Present:</i>	L. Tibbits J. D. Culp T. Fudaly	J. Friend M. Chaput C. Bleech	J. Polasek A. Clover E. Burns
<i>Absent:</i>	B. O'Brien	J. W. Reincke	M. VanPortFleet
<i>Guests:</i>	B. Zimmerman B. Krom	F. Spica G. Mayes (For J. Reincke)	W. Stebbins (For M. VanPortFleet)

OLD BUSINESS

1. **Approval of the Minutes of the February 7, 2005, Meeting – L. Tibbits**

The minutes of the February 7, 2005, meeting were approved.

2. **Establishing Speed Limits for Work Zones (See February 7, 2005, Minutes, Old Business, Item 3) – B. Zimmerman**

Brian provided members with copies of the regions' comments and questions. The two region representatives for the Construction and Technology Support Area approved the guidelines for EOC action.

The committee approved the draft Bureau of Highway Instructional Memorandum 2005-B, *Guidelines to Establish Speed Limits in Work Zones*, with minor changes. Revise the first paragraph to improve clarity on what is meant by "established" traffic control. Use of the guidelines should be implemented on 2005 construction projects.

On projects already let with double drops in place, or where the contractor has already furnished double drops such as 50 mph and 60 mph signs, the committee agreed that the 50 mph signs could be replaced with 60 mph signs. An implementation plan for the 2005 construction season is needed. Mark Chaput will follow up with the other region engineers regarding an implementation plan for new projects, and for existing projects where traffic controls have yet to be established. This plan will be incorporated into the instructional memorandum for distribution.

NEW BUSINESS

1. **Pavement Selections – B. Krom**

A. **M-14 Reconstruction: CS 82102, JN 45711**

The reconstruction alternates considered were: Alternate 1 – hot mix asphalt (HMA) pavement (Equivalent Uniform Annual Cost [EUAC])

\$129,627/directional mile), and Alternate 2 - jointed plain concrete pavement (JPCP) (EUAC \$109,066/directional mile).

A life cycle cost analysis was performed and Alternate 2 was approved based on having the lowest EUAC. The pavement design and cost analysis are as follows:

11" (279.4mm).....	Jointed Plain Concrete Pavement (15' jt. spacing)
	(Mainline & Outside Shoulder, 9" Inside Shoulder)
16" (406.4mm).....	Open Graded Drainage Course
	(Mainline & Outside Shoulder, 18" Inside Shoulder)
	Geotextile Separator
6".....	Open Graded Underdrain System
27" (685.8mm).....	Total Thickness

Present Value Initial Construction Costs	\$951,553/directional mile
Present Value Initial User Costs	\$730,414/directional mile
Present Value Maintenance Costs.....	\$80,363/directional mile
Equivalent Uniform Annual Cost	\$109,066/directional mile

B. M-10 Reconstruction: CS 63081 & 63082, JN 45715

The reconstruction alternates considered were: Alternate 1 – hot mix asphalt (HMA) pavement (Equivalent Uniform Annual Cost [EUAC] \$391,762/directional mile), and Alternate 2 - jointed plain concrete pavement (JPCP) (EUAC \$352,836/directional mile).

A life cycle cost analysis was performed and Alternate 2 was approved based on having the lowest EUAC. The pavement design and cost analysis are as follows:

9.5" (241.3mm).....	Jointed Plain Concrete Pavement (15' jt spacing)
	(Mainline & Shoulders)
6" (152.4mm).....	Open Graded Drainage Course (Mainline & Shoulders)
	Geotextile Separator (Mainline & Shoulders)
10" (254mm).....	Sand Subbase (Mainline & Shoulders)
6".....	Open Graded Underdrain System
25.5" (647.7mm).....	Total Thickness

Present Value Initial Construction Costs	\$1,330,411/directional mile
Present Value Initial User Costs	\$4,217,177/directional mile
Present Value Maintenance Costs.....	\$153,662/directional mile
Equivalent Uniform Annual Cost	\$352,836/directional mile

2. Soil Erosion and Sedimentation Control (SESC) Manual – A. Clover (for Brenda O'Brien)

The committee deferred action on the recommendation to transfer responsibility for the development, review and approval of the SESC Manual to the Environmental Committee. The current practice requires both the Environmental Committee and the Engineering Operations Committee to review and approve the SESC Manual.

ACTION: Brenda O'Brien and André Clover will contact Bobbi Welke and Randy VanPortfliet to review the language contained in the guidance document regarding the Environmental Committee's authority for policy decisions.

3. **Possible Patent of Two Inventions – F. Spica**

Following a presentation to the committee of the Civil Service rules about royalty percent distributions to departments and individuals, the committee asked Frank to investigate the current climate regarding patents in other state departments. The item was tabled pending additional information on other state departments' experiences with patents.

4. **Research Report, *Field Test of Variable Speed Limits in Work Zones (in Michigan)* – B. Zimmerman (for J. Grossklaus)**

Speed limits in work zones need to reflect the conditions at the time of travel. If speed limits reflect the conditions, motorist compliance should increase. Traffic volumes, road conditions and staging of construction change, therefore, speed limits should change also. Under our current practices, changing speed limits on a frequent basis is not possible. This project involved trying to find a reliant automated system that would change the speed limit when the conditions change.

The committee approved the report for technology sharing only (Step 1 of the Action Plan). Variable speed limit signs are not to be used on MDOT projects until the technology is developed further.

(Signed Copy on File at C&T)

André Clover, Acting Secretary
Engineering Operations Committee

AC:kar

cc:	G. J. Jeff	S. Mortel	J. Steele (FHWA)
	K. Steudle	D. Jackson	R. Brenke (ACEC)
	L. Hank	W. Tansil	G. Bukoski (MITA)
	EOC Members	D. Wresinski	R. J. Risser, Jr. (MCPA)
	Region Engineers	C. Libiran	D. Hollingsworth (MCA)
	TSC Managers	R. J. Lippert, Jr.	J. Becsey (MAPA)
	Assoc. Region Engineers	T. L. Nelson	M. Newman (MAA)
	T. Kratofil	T. Phillips	C. Mills (MPA)
	M. DeLong	K. Peters	J. Murner (MRPA)
	B. Kohrman	J. Ingle	
	J. Shinn	C&T Staff	